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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/374,694	08/16/1999	CHANDA DHARAP	23737	4040

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EXAMINER

VERBRUGGE, KEVIN

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/374,694

Applicant(s)

DHARAP, CHANDA

Examiner

Kevin Verbrugge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This non-final Office action is in response to the decision of the Board of Patent Appeals and Interferences dated 9/29/04 which reversed all outstanding rejections in the case. The Board found that it was inappropriate for the Examiner to characterize the claim terms "semantic type" as "data type" and pointed to the specification's definition of "semantic type" as "the different connotative meanings that the information contents of resources can have, as perceived by the user" (specification, page 3, lines 9-10). The Board gave special emphasis to the phrase "as perceived by the user".

Therefore, in an effort to interpret the term "semantic type" in accordance with the Board's decision, the Examiner further analyzed the specification to determine what particular examples of "semantic type" were present therein.

First of all, the Examiner notes that "semantic type," "semantic content type," "category," "semantic category," and "semantic classification" are all used at different points in the specification interchangeably.

Secondly, the particular examples of resources of different semantic type that are given in the specification include weather reports, encyclopedia articles, news articles, stock reports, search results, email messages, and newsgroup messages (page 5, lines 13-16 and the abstract).

Discussion throughout the specification indicates that these different resources have different volatility and are therefore cached differently. The examples at page 5,

lines 13-16, indicate that weather reports are placed in the active cache while an encyclopedia article is placed in a static cache.

Finally, although an exact reading of page 5, lines 11-18 and the abstract indicate that weather reports, news articles etc. are different semantic types, it is more accurate to say that resources such as weather reports, news articles, etc. have different semantic types. In this understanding then, semantic type is roughly equal to "volatility" and would have values such as "dynamic" and "static."

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3, 4, and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear why or how the device disclosed in the specification determines the semantic type based on a request from a user nor why or how determining the semantic type includes determining a context of the request, a prior request, a profile of the user, or a response from the user to a result of a prior request.

Page 5, lines 11-18 and the abstract clearly teach that the semantic type is dependent on the resource and is an inherent characteristic of the resource. Therefore

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it is not clear how the user's request, request context, prior request, profile, or response can be used to determine the semantic type.

Similarly, page 6, line 27 through page 7, line 10 discuss default semantic types which are apparently assigned to the resources based on content of the resource.

Therefore it is not clear how or why the user changes the semantic type since the semantic type appears to be characteristic of the resource itself.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Databases and web pages are functional descriptive material per se and are not statutory because they are neither physical things nor statutory processes. They are not tangible products or methods.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5-12, 14, and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,507,891 to Challenger et al., hereinafter simply Challenger.

Regarding claims 1, 7, and 8, Challenger discloses the claimed method and shows the distributed data processing system which performs the claimed method in Fig. 1. A client receives a copy of an information resource (a web page or a fragment of a web page) from the remote source (server 104). The information resource is cached in dependence upon a semantic type associated therewith as claimed. This caching in dependence upon a semantic type is shown in Fig. 5.

Exemplary resources having different semantic types are shown near the top of the figure as home pages, white pages, product displays, and ad service. Home pages may be statically cached, white pages and product displays may be dynamically cached, and ad service is not cached.

Challenger shows his "definition" of semantic type to be the content update rate, equivalent to the "volatility" semantic type as disclosed by the Applicant since volatility is an indication of the rate of content change. The content of highly volatile (or dynamic) resources changes frequently. The content of low volatility (or static) resources changes infrequently. Challenger realized this and discloses a device which caches the resources differently, in dependence upon their semantic type, as claimed.

Particularly relevant passages of Challenger's disclosure include column 2, lines 16-25, 43-45, and 50-52; column 6, line 66 through column 9, line 10.

Regarding claim 2, Challenger discloses both the claimed static caching and active (dynamic) caching as seen in Fig. 5.

Regarding claims 5 and 16, Challenger's device determines the semantic type based in the contents of the resource as claimed.

Regarding claims 6 and 9, Challenger's remote source comprises an Internet site as claimed (column 4, line 21).

Regarding claims 10 and 11, Challenger discloses the claimed parameter determination as the claimed time duration threshold (time limit) at column 3, lines 46-47; column 7, lines 29-31; column 9, line 62 through column 10, line 1; column 10, lines 24-25; column 13, lines 37-42; column 14, lines 9-34; column 16, lines 5-9; column 17, lines 34-62; column 18, line 9; column 19, lines 42-46; and column 20, lines 7-20 and 61-62.

Regarding claim 12, the claimed processor is shown in Fig. 1 as server 104 and is detailed in Fig. 3 as server 300, which includes processors 302 and 304. The claimed retriever is shown as a client, for example client 108 and is detailed in Fig. 4 as client 400. The claimed cache system is shown in Fig. 3 as memory controller/cache 308, operably coupled to the client through the network 102 shown in Fig. 1. The claimed cache system further includes TCP/IP sprayer 210 in Fig. 2 as disclosed at

column 4, lines 49-51. The claimed cache system further includes host cache/PCI bridge 408 in Fig. 4. The various caches are discussed throughout the disclosure. A particularly relevant passage is found at column 11, line 32 through column 12, line 8. Clearly, Challenger's device includes cache memory for storing the copy of the resource and includes the cache controllers necessary to control the caches of his device.

Regarding claim 14, Challenger does not explicitly show the claimed semantic classifier, however it is inherent in his device since his device determines the semantic type of the resource as claimed. The server 104, shown in Fig. 1 and expanded in Figs. 2 and 3, inherently includes the claimed semantic classifier since the server determines the semantic type of the resource and caches it accordingly.

Regarding claim 17, Challenger does not explicitly show the claimed database comprising indexes and default semantic types. However, as shown in Fig. 1, Challenger's device distributed data processing system 100 includes storage 106 which is inherently organized with the claimed indexes to track the plurality of resources stored therein, each of the resources having a default semantic type as claimed, since their semantic type is determined by their content. Furthermore, he shows shared parallel database 212 in Fig. 2 and describes it at column 4, line 63 through column 5, line 8. Clearly this database includes the claimed indexes since indexes are required to keep track of the resources stored in the database.

Regarding claim 18, Challenger's information resources include the claimed web site.

Regarding claim 19, Challenger's information resources are available via an Internet service provider as claimed.

Regarding claim 20, Challenger discloses web pages having the claimed information resources and an associated semantic type, such as the home page shown in Fig. 5, having the "static" semantic type associated with it for controlling the caching of the home page. The identification of semantic type associated with an information resource is part of Challenger's device.

Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,154,767 to Altschuler et al., hereinafter simply Altschuler.

At column 34, lines 31-32, Altschuler discloses that "XML may be used to embed semantic information, such as attributes, into HTML files" and he shows some of these attributes in Figs. 25, 34a, and 34b. Clearly then, it was known to include an identification of a semantic type associated with an information resource in a web page along with the resource.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,507,891 to Challenger et al., hereinafter simply Challenger, in view of U.S. Patent 6,272,598 to Arlitt et al., hereinafter simply Arlitt.

Challenger does not explicitly teach a cache with a plurality of cache sections. Apparently his device caches resources of different semantic types in the same cache, tracking each resource separately and using different replacement policies for different resources, dependent on their semantic type.

Arlitt discloses a device that improves web cache performance by sectioning the cache (cache 72 in Fig. 3) and applying different replacement policies to the different sections.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to partition the caches of Challenger to improve performance of the cache by keeping resources of different semantic types separate in the cache. This enhances performance by making sure that no one type of resource overwhelms the cache at the exclusion of another type of resource. Challenger's device already accomplishes the goal of different replacement policies being used at the same time for

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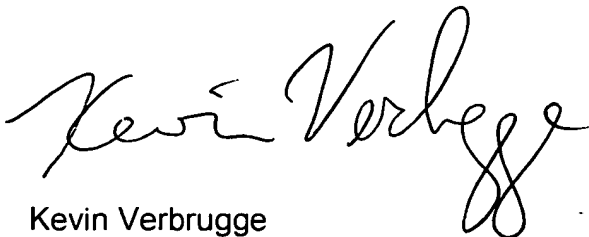
different resources in the same cache, but the additional advantage achieved by Arlitt in partitioning the cache is enhancing cache performance by making sure that the cache is not overwhelmed by static resources at the expense of dynamic resources or vice versa. This is explained in more detail by Arlitt at column 7, lines 35-62.

Conclusion

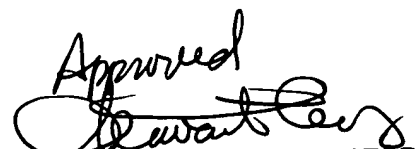
Any inquiry concerning a communication from the Examiner should be directed to the Examiner by phone at (571) 272-4214.

Any response to this action should be labeled appropriately (serial number, Art Unit 2188, and After-Final, Official, or Draft) and mailed to Commissioner for Patents, Washington, D.C. 20231 or faxed to (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.



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